REMARKS

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants:

1. Editorially amend the specification (see section E infra)..
2. Amend independent claims 1, 23, 24, 31, 53, 54, 59, 60, 61, and 62. Claims 1, 2, 9, 18, 23, 24 and 31-62 remain in the application (no claims have been cancelled or added by the present amendment).
3. Summarize certain telephone interviews (see section B infra)
4. Respectfully traverse all prior art rejections (see sections C and D infra).
5. *Request an office interview (see section F infra).*
6. Attach a marked-up version of the changes made to the specification and claim(s) by the current amendment. The attached page(s) is captioned "Version With Markings To Show Changes Made."

B. TRAVERSAL OF FINAL REJECTIONS

The Patent Office rejects claims 1, 2, 18, 23, 24 and 62 as being anticipated under 35 USC §102(e) by Plesko (U.S. Patent 6,233,098). The Court of Appeals for the Federal Circuit has noted in the case of *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 USPQ 481, 485 (Fed. Cir. 1984) that "[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim."

As a prelude in the traversal of the prior art rejections, Applicant reiterates the fact that Applicant's claims involve *aiming* apparatus and techniques for visually indicating a reading zone. As suggested by and already discussed with the Examiner, Applicant has amended all independent claims to include a statement to the effect of provision on the reading zone of immediate visual feedback regarding the position of said shaped light relative to the reading zone. While (as explained below) the pre-amended claim should

have been sufficient in this regard, the current amendments render all independent claims unquestionable patentable since, by contrast, the applied prior art references teach only devices for *reading* a bar code.

The present amendments to the independent claims underscore the fact that the "visual feedback" occurs on the reading zone and that such feedback regards the position of the shaped light relative to the reading zone. In Plesko, on the other hand, the visual feedback occurs on window 212 of the reader and the feedback regards the decoded information.

Turning to other structural aspects of the claims, each and every structure recited in applicant's independent claims which are rejected under §102 must be shown or described in the Plesko reference. One need only look to the requirements in applicant's independent claim 1 (and present in applicant's other independent claims) for the structural limitation of a converging lens placed "downstream of the diaphragm". Plesko in Figure 2 shows just the reverse. The converging lens 2 in Plesko is upstream of a diaphragm 8, not "downstream as required by the claim. Thus the specific structural interrelationship required by each independent claim is not present in Plesko.

In the event the Examiner believes that Plesko's Figure 3 shows a converging lens downstream of a diaphragm, it is noted that element 14 is not a diaphragm (like element 8), but rather is a translucent window. Thus Figure 3 fails to meet the language of applicant's independent claims.

*Moreover, contrary to what the Examiner intimates in section 10 of the Advisory Action, the emissions from Plesko's window (or alleged diaphragm) are not focused by a converging lens. In Plesko, the converging lens focuses the source, **not** a diaphragm).*

To emphasize the effect of Applicant's diaphragm, Applicant has amended all of its independent claims essentially to specify that the diaphragm serves for allowing

propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam. Such is amply supported in the original disclosure, e.g., by the drawings of Applicant's application, which show and describe a diaphragm as comprising a central aperture adapted to select only a central portion of the light beam impinging thereon and to prevent propagation of the remaining surrounding portion of light beam.

Elements 14 and 15 of Plesko's Fig. 3 thus do not perform a diaphragm function. Rather, element 14 is a transparent window and therefore it does not prevent propagation of the portion of light beam impinging thereon. In other words, element 2 of Plesko collects and focuses both the central portion of light beam passing through the aperture 15 and part of the surrounding portion of light beam impinging on the element 14 and refracted thereby (see col. 6, lines 10-15, wherein Plesko clearly recites that rays 17a, 18a impinging on the element 14 at an angle too large to pass through aperture 15, pass through the window 14 and undergo refraction). Plesko's teaching is contrary to the teaching of applicant's invention as currently claimed, which is that of allowing propagation of only that portion of light beam selected by the aperture and preventing propagation of the remaining portion.

Plesko's teaching is different from Applicant's teaching because Plesko's object is to read a target, while Applicant's teaching is to aim a target. In this respect, Plesko clearly recites that it is highly desirable not to waste light from the source and uses both the light passing through the aperture 15 and part of the light impinging on the element 14 and refracted thereby in order to focus light on two different points, thus increasing the depth of field of the reader (see col. 5, lines 58 to col. 6, line 40). On the contrary, Applicant invention's teaching is to waste those portion of light which does not pass through the diaphragm aperture.

The above considerations apply also to Figs. 6 and 7 of Plesko. Other figures/embodiments of Plesko are also inapposite, as briefly explained below.

Figs. 8a-8d of Plesko show translucent light scattering lens surfaces. These lenses have a scattering portion which operates as a diaphragm and a translucent portion which operates as a lens, that is, a portion of the same lens functions as a diaphragm and another portion functions as a converging lens, that is the converging lens and the diaphragm are on the same optical element. In other words, these lenses are intended to operate in a configuration as that of the lens of Fig. 9. This configuration is different from the one claimed by the Applicant because it lacks a converging lens downstream of a diaphragm.

Fig. 21 of Plesko shows a sliding optical element which is a GRIN lens as that of Fig. 9, that is wherein the converging lens and the diaphragm are on the same optical element. As stated above, this configuration is different from the one claimed by the Applicant because it does not have a converging lens downstream of a diaphragm.

In Fig. 17 (and 16) of Plesko the light beam emitted by the source S is first converged by the surface 347, then collected by the hole 349, and finally focussed by the surface 346 (see col. 10, lines 25-60). These lines recite that the region surrounding the hole 349 in the translucent shell can actually function as a diaphragm; however, it should be noted that at least part of the converging lens (surface 347) is located upstream of the translucent region. Therefore, as the embodiment of Fig. 2 and this embodiment does not disclose a converging lens located *downstream* of the diaphragm as in the Applicant's application. In any case, it should be noted that the teaching of Plesko is to eliminate a separate stop aperture to obtain a longer working range. This teaches away from Applicant's invention (see col. 10, lines 25-30). It is also recited that the region 340 can be made of transparent material; in this case the same considerations made with respect to Figs. 3, 6 and 7 applies.

Claims 9 and 31-61[1] stand rejected under 35 USC §103 as unpatentable over Plesko in view of Massieu (U.S. Patent 5,397,885). Concerning those of the claims which are dependent, the above comments regarding the Plesko reference are herein incorporated by reference. Moreover, a detailed review of the Massieu reference fails to indicate any converging lens which is downstream of a diaphragm, and where the lens converges shaped light coming from the diaphragm. It is unclear how the Examiner is applying Massieu to supply this missing teaching. The Examiner refers to the previous official action ("See the reasons as indicated in the previous office action dated October 04, 2001 in paper no. 7" on page 2 of the Final Rejection). However, nowhere in paper no. 7 is there any indication of where the Massieu reference teaches the missing interrelationship (e.g., "lens downstream of the diaphragm"). Thus, these claims cannot be obvious in view of the Plesko/Massieu combination.

While claim 9 was previously of record and considered in the previous Official Action dated October 4, 2001, claims 31-61 were not existent at the time of that Official Action and therefore there is no rejection of record of newly written claims 31-62. The Examiner has failed to recite any basis for rejection of these claims other than stating the grounds of rejection being under §103. To establish a prima facie case of obviousness, the burden is on the PTO to show where the recited structures are disclosed in the prior art **and** to point out where there is any motivation to combine the references in the manner of the rejected claims. The Examiner has failed to do either with reference to claims 31-61 and therefore has failed to provide any support for his §103 rejection.

[1] The Examiner suggests that claims 28 and 29 are rejected under 35 USC §103 as unpatentable over Plesko in view of Massieu. Applicant notes that in the previous Amendment filed February 4, 2002, claims 28 and 29 were cancelled without prejudice and therefore these claims are not present before the Examiner. Applicant is uncertain as to why these claims are rejected in paragraph 5 of the Official Action and clarification is respectfully requested.

C. REPLY TO EXAMINER'S "RESPONSE TO ARGUMENTS"

1. The "Same Result" is Not The Test For Patentability

Applicant, in the previous Amendment, pointed out that neither Plesko nor Massieu disclose an aiming device or a method for aiming a reading device. The Examiner suggests, in section 6., page 3 of the Final Rejection, that this is not persuasive, although the sentence structure of the Examiner's discussion is highly indefinite ("Applicant does not proved the different structures and purposes between the aiming device and the optical reading device as disclosed in the Plesko and/or Massieu reference, since all the features recited in the aiming device and the optical reading device have the same results for reading the information." Final Rejection, page 3). Because the Examiner's meaning is not readily discernable, clarification of the Examiner's intent is respectfully requested.

If the Examiner is arguing that both the claimed invention and the prior art structure provide "the same results for reading the information," the reaching of the "same result" is not the current test for unpatentability. As is well known in the art, a transistor radio and a vacuum tube radio both amplify a transmitted radio signal for listening. Thus, they both achieve the "same result." However, the transistor was certainly not obvious in view of the vacuum tube, and they operate in entirely different fashions. Should the Examiner have a statute or a Federal Circuit opinion or even a Manual of Patent Examining Procedure (MPEP) citation suggesting that this is the case, applicant would be interested in reviewing the issue.

Again, should the Examiner believe that the standard of patentability is that devices must do different things, rather than be different structural combinations which might do the same thing, he is respectfully requested to cite an appropriate Federal Circuit case or statute that supports his conclusion. Otherwise, he is respectfully

requested to withdraw the allegation that a rejection under §103 is supported if two devices "have the same results."

2. The Examiner May Not Ignore The Preamble Of A Claim

On page 3 of the Final Rejection, the Examiner also suggests that, even if applicant's claimed invention is different from the cited prior art reading devices, then it is "considered obvious, because the term 'the aiming device' is recited in the preamble and not in the body of claims." Again, the Examiner is not believed to appreciate the body of decisions of the Court of Appeals for the Federal Circuit which indicate that the "preamble" of a claim "breathes life and meaning" to the structure recited in the claim.

Moreover, the MPEP (at Section 2111.02 "weight of preamble") specifically indicates that "intended use recitations and other types of functional language cannot be entirely disregarded." The MPEP goes on to indicate that the intended use, to be considered, must result in structural differences between the claimed invention and the prior art in order to patentably distinguish them.

In the present case, applicant's "lens downstream of the diaphragm" for collecting shaped light and projecting it onto the reading zone portion are all structural relationships or characteristics, clearly absent in the cited prior art references, which implement the "aiming device" use and function of the present invention. Thus, even in accordance with the MPEP, the preamble must be considered and, as such, applicant's claim clearly distinguishes over the cited prior art.

Moreover, it is the interrelationship of the recited structural elements in applicant's claim which comprises the "aiming device." These elements do not comprise a bar code reader as generally or specifically disclosed in the cited prior art. None of the prior art references provide any sort of "aiming device" which project shaped light onto the

reading zone portion of a bar code. Therefore, the Examiner cannot ignore the preamble of the claims when it characterizes the functional benefit of the invention.

3. No Need To Recite Inherent Benefits In A Claim

The Examiner also suggests on Page 3 of the Final Rejection, that the argued limitation, i.e. that the present invention provides the operator with immediate visual feedback as to the pointing of the reading device is not disclosed in the independent claims. As noted above, this benefit is inherent in the structure recited in applicant's independent claim. That structural combination provides a projection of shaped light onto the reading zone portion. As a result of this illumination, the operator has immediate visual feedback as to the pointing of the reading device. Thus, this benefit of the present invention is inherent in the interrelationship of the recited structures and this benefit cannot be ignored by the Examiner.

However, in fact applicant has amended claims 1, 23, 26, 31, 53, 56, 59, 60, 61, 62 to add this limitation as suggested by the Examiner. Thus, entry of the amendment places this benefit clearly into the independent claims.

4. Clarification of What A "Functional and Negative Recitation" Might Be

The Examiner also suggests on page 3 of the Final Rejection, that the benefit of providing an operator with immediate visual feedback is "also considered to be the functional and negative recitation." This comment is not understood; applicant fails to appreciate specifically what the Examiner's basis for rejection is or might be. Is the Examiner arguing that this benefit of the claimed construction is somehow a "functional limitation" or a "negative limitation" or something else?

If the Examiner believes this to be a functional limitation, the MPEP also clearly states that "there is nothing inherently wrong defining some part of an invention in functional terms." MPEP Section 2173.05(g). Thus, there is nothing wrong with a

functional limitation (assuming that such a limitation exists in applicant's independent claims) and the Examiner's reliance upon the same to reject the claims is clear error.

If the Examiner intended to object based upon a "negative limitation," applicant is not sure where the negative limitation is set out in any of its independent claims. However, even if set forth in one or more claims, there is nothing wrong with a negative limitation. The Examiner's attention is directed to MPEP Section 2173.05(i) which states that "there is nothing inherently ambiguous or uncertain about a negative limitation." Therefore, clarification is respectfully requested and absent such clarification, this basis for rejection is respectfully traversed.

Thus, in view of the above discussion, the Examiner's "Response To Arguments" does not rebut the points raised in the previous amendment, and indeed seems to demonstrate that the Examiner is failing to follow the MPEP and the requirements of the Court of Appeals for the Federal Circuit in his rejections.

5. Plesko does not teach or suggest the claimed "visual feedback"

The Examiner draws erroneous conclusions in the last sentence of enumerated paragraph 6 of the Office Action, inferring the Plesko provides the operator with the claimed visual feedback, e.g., immediate visual feedback from the reading zone as to the position of said shaped light relative to the reading zone. Plesko merely provides an operator with an indication of the decoded information on window 212. This is entirely different from (Applicant's) providing the operator with visual feedback on the reading zone *regarding the position of said shaped light relative to the reading zone*.

D. THE FAILURE TO ADDRESS LIMITATIONS OF NEWLY ADDED CLAIMS

With respect to claims 31-62, it should also be pointed out that the Examiner has not responded to the individual details included in these claims. For example, claim 31

specifies that there are "at least two first illuminating assemblies" which are disposed on opposite sides of an aiming axis Z. Plesko fails to teach a plurality of two or more light sources.

The Examiner suggests that Massieu discloses "at least two" light sources, but these are not believed to be light sources as recited in applicant's independent claim 31. For example, Massieu teaches an illumination strip 5 comprising a row of infrared light emitting diodes (column 4, line 45). These do not provide visible light and, in fact, the benefits of non-visible infrared light in Massieu is in order to reduce the "sensitivity of the reader to ambient light." (column 3, lines 30-36). Thus, even if modified to be combined with Plesko, Massieu could not be "an aiming device for visually indicating a reading zone" as recited in independent claim 31 because its infrared light sources are invisible to human vision.

Because neither Plesko nor Massieu teach the "at least two" illuminating assemblies, they cannot disclose or render obvious applicant's independent claims 31, independent claim 53, 54, 59, 60 or 61.

There is certainly no allegation of any disclosure in Massieu or Plesko of the organizational arrangement of locating illuminating assemblies on opposite sides of an aiming axis. Both Plesko and Massieu relate to scanning or reading devices which are generally well known in the field. Because Plesko teaches only a single light source, it teaches away from any combination of elements utilizing a plurality of light sources or light sources on either side of an optical axis. In Massieu, the illumination strip of IR LEDs is utilized to increase the depth of field of the reader. Two refractors are separated by a slot to let light backscattered by the bar code pass to a detector. There is no disclosure of use of a diaphragm having a preset shape so as to indicate the reading zone of a system. On the contrary, the prismlike lens focuses the entire light beam, as appears in Fig. 3. Thus, Massieu teaches against selecting a portion of the emitted light beam.

Therefore, an artisan of the art would have not had any hint or reason to provide a diaphragm and a converging lens downstream of the diaphragm in a device as that of Massieu. In view of the above, the Applicant's invention as claimed in new claim 31 should be considered non-obvious over Massieu.

Furthermore, an artisan in the art would not have combined the teaching of Plesko with that of Massieu since they relate to two completely different categories of optical readers (respectively, a laser scanning reader requiring only one light source and scanning means and a CCD reader requiring a plurality of light sources for simultaneously illuminating the bar-code label), each device involving technical and structural features which are not compatible with the features of the other device. No hint can be found throughout Plesko to use more than one light source, nor on how to use more than one light source to achieve the object of reading an optical code by a scanning reader.

In view of the above, the Applicant's invention as claimed in claim 31 should be considered novel and non-obvious over the cited prior art. For the same reason, also independent claims 53 and 54 should be considered patentable over the cited prior art.

Again, because both references teach away from applicant's independent claims, it would not be obvious to combine these references in the manner of applicant's independent claims. Furthermore, neither reference even recognizes the problem solved by the present invention. Neither of them are concerned with the aiming of their device or providing on the reading zone visual feedback regarding the position of the shaped light relative to the reading zone. Both prior art references are related solely to the reading of a bar code reader and have nothing to do with aiming of that bar code reader.

Applicant observes that independent claim 59 specifies that the at least two illuminating assemblies are disposed on opposite sides of the aiming axis and are active on opposed portions of the reading zone along respective optical emission paths in order

to identify at least two discrete patterns on the reading zone and that this is not disclosed in the prior art.

The applicant's invention as claimed in claim 59 relates to an aiming device for visually indicating a reading zone. The device comprises at least two illuminating assemblies disposed on opposite sides with respect to the aiming axis of the device and active on opposed portions of the reading zone along respective optical emission paths in order to identify on the reading zone at least two discrete patterns. Each illuminating assembly comprises a light source, a diaphragm and a converging lens downstream of the diaphragm.

Plesko discloses an optical system for reading information over a long working range. The optical system of Plesko is intended to be used into beam scanners (bar code reader) and, generally, into any information readout device and equipment requiring beam conditioning or light focusing.

The optical system of Plesko, as shown in Fig. 3, comprises a light source, a diaphragm located downstream of the source and a converging lens located downstream of the diaphragm.

However, as acknowledged by the Examiner on page 9, lines 10-11 of the Office Action of October 4, 2001, Plesko does not teach to provide at least two first illuminating assemblies disposed on opposite sides relative to the aiming axis of the device. In view of the above, the Applicant's invention as claimed in claim 59 is novel over Plesko.

The Applicant's invention as claimed in claim 59 is novel also over Massieu because Massieu does not teach an illuminating assembly comprising a diaphragm having a preset shape for selecting a portion of the light generated by the light source and a converging lens placed downstream of the diaphragm for collecting the shaped light coming from the diaphragm and projecting the shaped light onto a reading zone portion.

None of the other prior art documents cited by the Examiner discloses all of the features of the Applicant's invention as claimed in claim 59, which is therefore to be considered novel over the cited prior art.

Further, the applicant's invention as claimed in claim 59 is non-obvious over all of the prior art documents cited by the Examiner, when taken alone or in combination.

The Examiner stated that Massieu suggests two first illuminating assemblies and two second illuminating assemblies disposed symmetrically relative to the aiming axis of the device. However, Massieu does not teach that the illuminating assemblies are active on opposed portions of the reading zone along respective optical emission paths in order to identify on the reading zone respective discrete patterns.

It should be noted that Massieu relates to a bar-code label reader comprising a plurality of light-emitting diodes. An artisan skilled in the art knows that, in order to allow reading of the bar-code, it is compulsory that the whole bar-code label be simultaneously illuminated by all of the light emitting diodes. This is in conflict with the teaching of the Applicant's invention as claimed in claim 59, which is to illuminate only opposed portions of the reading zone along respective optical emission paths in order to identify on the reading zone respective discrete patterns.

No suggestion can be found throughout Massieu and the other prior art documents on file of the above identified features on the Applicant's invention. In view of the above, it should be concluded that the Applicant's invention as now claimed in claim 59 is also non-obvious over the prior art documents cited by the Examiner, when taken alone or in combination. For the same reason, also independent claims 60 and 61 should be considered patentable over the cited prior art.

Claim 62 is novel and non-obvious over the cited prior art for the following reasons:

As disclosed on page 10, lines 15 to 17 of the specification as filed, the device of the referred invention comprises a converging lens located at an appropriate distance away from the diaphragm such that the image of the diaphragm is focused onto the reading zone.

From col. 6, lines 35-38, and Fig. 3 of Plesko it is quite clear that in Plesko's device the lens (2) focus the source (S), not the diaphragm 15 (differently by the Applicant's device, wherein the diaphragm is focused by the converging lens). This is due to the fact that Plesko's object is to increase the depth of field of the light beam in order to read a code over a long distance range. To achieve this object the source must be focused in order to produce, for a long distance range, a light spot having a small size, so as to be able to distinguish the bars and the spaces of the code (see col. 1, lines 29 to 32 and col. 6, lines 64 to 67). Differently, the object of the Applicant's invention is to produce a clear or sharp pattern onto the reading zone in order to clearly indicate to the operator the framed area. To achieve this object the diaphragm must be focused.

In addition, it should be noted that Plesko cannot suggest to focus the diaphragm (and therefore to locate the lens at an appropriate distance away from the diaphragm such that the image of the diaphragm is focused onto the reading zone). In fact, in order to focus the diaphragm Plesko should have suggested to displace the lens away from the diaphragm at an appropriate distance; however, by displacing the lens away from the diaphragm a light spot is produced having a size too large to distinguish the bars and spaces of the code, this light spot being therefore unsuitable to read the code.

In view of the above, claim 62 should be considered patentable over the cited prior art.

E. AMENDMENTS TO THE SPECIFICATION

Applicant clarifies on page 15 that four of the "V" terms refer vertical rather than horizontal dimensions, which is apparent, e.g., by employment of the "V" for vertical rather than the "H" for horizontal.

Applicant has further assumed, in the absence of any contrary indication, that the new Figure 7 submitted on February 4, 2002 has been approved. Accordingly, Applicant has amended the specification at appropriate junctures to refer to the new Figure 7.

F. REQUEST FOR OFFICE INTERVIEW

Applicant requests an office interview with the Examiner and the Examiner's supervisor. The Examiner is respectfully requested from issuing a further action until such interview is held. The undersigned will contact the Examiner and/or the Examiner's SPE on or about January 29, 2003 in order to schedule the interview.

G. MISCELLANEOUS

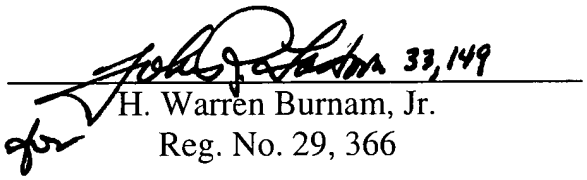
Applicant believes this amendment renders all claims clearly patentable over the art of record. Pursuant to the provisions of Rule 116, and should the finality of the rejection not be withdrawn as requested above, entry of the above Rule 116 Amendment is respectfully requested.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that pending claims 1, 2, 9, 18, 23, 24 and 31-62 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact applicant's undersigned representative.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
H. Warren Burnam, Jr.
Reg. No. 29, 366

HWB:lsh
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Please add the following new paragraph after line 30 on page 9:

- Figure 7 is a block diagram of elements of the invention in their geometrical relationship.

Please change the paragraph on page 15, lines 9 - 13, to read as follows:

Described herein below with reference to Figure 5 and Figure 7 is an example of a method for calculating the distance and orientation of the reading area by the aiming device described in the foregoing, assuming that a square shape for the four patterns is projected onto the reading area.

Please change the paragraph on page 15, lines 14 - 24, to read as follows:

The following terms will be used hereinafter in relation to the pattern images picked up by the reader on a plane xy parallel to the reference plane XY:

H_{ULC} = horizontal dimension of the top left pattern;

H_{URC} = horizontal dimension of the top right pattern;

H_{LLC} = horizontal dimension of the bottom left pattern;

H_{LRC} = horizontal dimension of the bottom right pattern;

V_{ULC} = vertical [horizontal] dimension of the top left pattern;

V_{URC} = vertical [horizontal] dimension of the top right pattern;

V_{LLC} = vertical [horizontal] dimension of the bottom left pattern;

V_{LRC} = vertical [horizontal] dimension of the bottom right pattern.

IN THE CLAIMS

Please amend independent claims 1, 23, 24, 31, 53, 54, 59, 60, 61, and 62 as follows:

1. {THRICE AMENDED} An aiming device for visually indicating a reading zone, comprising at least one illuminating assembly active on a [the] reading zone portion along an optical emission path, said at least one illuminating assembly comprising [comprises]:

a light source for emitting a light beam;

a diaphragm having a preset shape for selecting as shaped light a portion of the light generated by said source, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam; and

a converging lens placed downstream of the diaphragm for collecting [collimating] the shaped light coming from the diaphragm and projecting said [collimated] shaped light onto the reading zone portion, thereby providing on the reading zone immediate visual feedback regarding the position of said shaped light relative to the reading zone.

(Remet) In Re Lemin 326 F.2d 437, 140 USPQ 273 (CCPA 1964)

23. {THRICE AMENDED} An optical apparatus for reading information, including an aiming device for visually indicating along a Z axis a reading zone, comprising at least one illuminating assembly active on a reading zone portion along an optical emission path, said at least one illuminating assembly comprising [comprises]:

a light source for emitting a light beam;

a diaphragm having a preset shape for selecting as shaped light a portion of the light generated by said source, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam; and

a converging lens placed downstream of the diaphragm for collecting [collimating] the shaped light coming from the diaphragm and projecting it onto the reading zone

portion, thereby providing on the reading zone immediate visual feedback regarding the position of said shaped light relative to the reading zone

24. {THRICE AMENDED} A method for aiming and visually indicating a reading zone, characterized in that the method comprises the steps of:

generating, by means of a light source, at least one light beam for illuminating a portion of the reading zone along an emission path;

selecting, by means of a shaped diaphragm, a portion of the light beam generated by the light source as shaped light, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam;

converging [collimating], by means of a converging lens, the selected portion of the shaped light [beam] coming from the diaphragm; and

projecting, onto the reading zone [portion], the shaped light beam picked up on the converging lens, thereby providing on the reading zone immediate visual feedback regarding the position of said shaped light relative to the reading zone.

31. {ONCE AMENDED} An aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed on opposite sides with respect to an aiming axis Z and active on respective portions of the reading zone along an optical emission path in order to identify on the reading zone respective patterns, wherein each of said at least two first illuminating assemblies comprises:

a light source for emitting a light beam;

a diaphragm having a preset shape for selecting as shaped light a portion of the light generated by said source, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam; and

a converging lens placed downstream of the diaphragm for collecting [collimating] the shaped light coming from the diaphragm and projecting the [collimated] shaped light

onto the reading zone portion, thereby providing on the reading zone immediate visual feedback regarding the position of said shaped light relative to the reading zone.

53. {ONCE AMENDED} An optical apparatus for reading information, comprising an aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed on opposed sides with respect to an aiming axis Z and active on respective portions of the reading zone along respective optical emission paths in order to identify on the reading zone respective patterns, wherein each of said at least two first illuminating assemblies comprises:

a light source for emitting a light beam;

a diaphragm having a preset shape for selecting as shaped light a portion of the light generated by said source, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam;

a converging lens placed downstream of the diaphragm for collecting [collimating] the shaped light coming from the diaphragm and projecting the shaped [collimated] light onto the reading zone portion, thereby providing on the reading zone immediate visual feedback regarding the position of said shaped light relative to the reading zone.

54. {ONCE AMENDED} A method for aiming and visually indicating a reading zone, characterized in that the method comprises the steps of:

generating, by means of at least two light sources, at least two light beams for illuminating respective portions of the reading zone along respective emission paths;

selecting, by means of shaped diaphragms having a predetermined size, a portion of each of the light beams generated by the light sources as shaped light beams comprising shaped light, thereby allowing propagation of said selected portions of each of the light beams and preventing propagation of remaining portions of each of the light beams;

converging [collimating], by means of converging lenses, the [portions of the] shaped light beams coming from the diaphragms;

projecting, onto the reading zone portion, the shaped light beams picked up on the converging lenses in order to identify on the respective portions of the reading zone respective patterns and provide on the reading zone immediate visual feedback regarding the position of said patterns.

59. {ONCE AMENDED} An aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed opposed sides with respect to an aiming axis Z and active on opposed portions of the reading zone along respective optical emission paths in order to identify on the reading zone at least two discrete patterns, wherein each of said at least two first illuminating assemblies comprises:

a light source for emitting a light beam;

a diaphragm having a preset shape for selecting as shaped light a portion of the light generated by said source, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam;

a converging lens placed downstream of the diaphragm for [collimating] collecting the shaped light coming from the diaphragm and projecting the [collimated] shaped light onto the reading zone portion, thereby providing on the reading zone immediate visual feedback regarding the position of said discrete patterns.

60. {ONCE AMENDED} An optical apparatus for reading information, comprising an aiming device for visually indicating a reading zone, the device comprising at least two first illuminating assemblies disposed on opposed sides with respect to an aiming axis Z and active on opposed portions of the reading zone along respective optical emission paths in order to identify on the reading zone at least two discrete patterns, wherein each of said at least two first illuminating assemblies comprises:

a light source for emitting a light beam;

a diaphragm having a preset shape for selecting as shaped light a portion of the light generated by said source, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam;

a converging lens placed downstream of the diaphragm for collecting [collimating] the shaped light coming from the diaphragm and projecting the shaped [collimated] light onto the reading zone portion, thereby providing on the reading zone immediate visual feedback regarding the position of said shaped light relative to the reading zone.

61. {ONCE AMENDED} A method for aiming and visually indicating a reading zone, characterized in that the method comprises the steps of:

generating, by means of at least two light sources, at least two light beams for illuminating opposed portions of the reading zone along at least two emission paths;

selecting, by means of shaped diaphragms having a predetermined size, a portion of each of the light beams generated by the light sources as shaped light beams comprising shaped light, thereby allowing propagation of said selected portion of each of the light beams and preventing propagation of a remaining portion each of the light beams;

collecting [collimating], by means of converging lenses, the [portions of the] shaped light beams coming from the diaphragms;

projecting, onto the reading zone portion, the shaped light beams picked up on the converging lenses in order to identify at the opposed portions of the reading zone at least two discrete patterns and provide on the reading zone immediate visual feedback regarding the position of said discrete patterns.

62. {ONCE AMENDED} An aiming device for visually indicating a reading zone, the device comprising at least one illuminating assembly active on a reading zone portion along an optical emission path, said at least one illuminating assembly comprises:

a light source for emitting a light beam;

a diaphragm having a preset shape for selecting as shaped light a portion of the light generated by said source, thereby allowing propagation of said selected portion of the light beam and preventing propagation of a remaining portion of the light beam; and

a converging lens placed downstream of the diaphragm for collecting [collimating] the shaped light coming from the diaphragm and projecting the [collimated] shaped light onto the reading zone portion, wherein the converging lens is positioned at a suitable distance away from the diaphragm such that the image of the shaped light coming from the diaphragm is focused onto the reading zone portion, thereby providing on the reading zone immediate visual feedback regarding the position of said shaped light relative to the reading zone.